

“Brief of Session”**ROUNDTABLE ON INTERCONNECTION OF REGIONAL GRIDS IN ASIA:
SAARC GRID - GCC GRID - ASEAN GRID**

Venue: Regency 3, The Lalit Hotel, New Delhi, India

Date & Time: 06 MARCH 2020, 14:00 to 16:30 PM

Organised by: India Smart Grid Forum (ISGF) jointly with USAID’s South Asia Regional Initiative for Energy Integration (SARI/EI) program, and IRADe, Implementation Partner for SARI/EI

Session Chair: Pankaj Batra, Project Director, SARI/EI, IRADe

**Speakers:**

- Ghanshyam Prasad, Chief Engineer, Ministry of Power, Government of India
- Ujjwal Deep Dahal, Director, Druk Holding & Investments (DHI), Bhutan (on video)
- SR Narasimhan, Director – System Operation, POSOCO
- Rohan Seneviratne, Deputy General Manager, Ceylon Electricity Board, Sri Lanka
- Michael Williamson, Section Chief – Energy Division, UN ESCAP (on video)
- BB Mehta, Chief Engineer (SLDC), GETCO
- Vinod Kumar Agrawal, Technical Director, SARI/EI, IRADe
- Rajiv Ratna Panda, Technical Head, SARI/EI, IRADe
- Ravi Arora, Vice President – BD & Sales, South Asia, South East Asia and Pacific, ABB

INTRODUCTION

India Smart Grid Forum (ISGF) organised the Second Roundtable on Interconnection of Regional Grids in Asia: SAARC GRID - GCC GRID - ASEAN GRID. The Roundtable was organized jointly with USAID's South Asia Regional Initiative for Energy Integration (SARI/EI) program and Integrated Research and Action for Development (IRADe), leading South Asian thinktank and the implementing partner for SARI/EI. Held on 6th March 2020 in New Delhi, India, the Roundtable was as a part of the India Smart Utility Week (ISUW) 2020, a flagship annual event on Smart Grids and Smart Cities.

A roundtable session was earlier conducted by India Smart Grid Forum (ISGF) on the topic "Interconnection of Regional Grids in ASIA/ASEAN SAARC/BIMSTEC-GCC Grids" on 15th March 2019, in New Delhi as part of ISUW 2019.

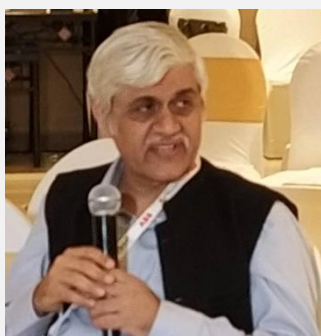
The USAID initiated the South Asia Regional Initiative for Energy (SARI/E) program in the year 2000 to promote Energy Security in the South Asia region, working on three focus areas: Cross Border Energy Trade (CBET); Energy Market Formation; and Regional Clean Energy development. The program covers the eight countries in South Asia, viz. Afghanistan, Bangladesh, Bhutan, India, The Maldives, Nepal, Pakistan and Sri Lanka. The fourth and current phase of the program, called South Asia Regional Initiative for Energy Integration (SARI/EI), is aimed at advancing regional grid integration through cross border power trade. This phase is being implemented by Integrated Research and Action for Development (IRADe), leading South Asian Think Tank. The SARI/EI program runs up to 2022 and is a key program under USAID's Asia EDGE (Enhancing Growth and Development through Energy) Initiative. A key focus of the program is on moving the region from bilateral to trilateral and multilateral form of power trade, and establishing the South Asia Regional Energy Market (SAREM).

INTRODUCTION TO THE ROUNTABLE

A regional power market can only be functional in a strongly interconnected regime. This has been underlined by the work done by SARI/EI over the years as well as the emerged from last year's deliberations. A regional power exchange is already operational in the GCC region. There are domestic power exchanges operational in India. Efforts are on to initiate exchange based regional trade in the SAARC and ASEAN regions. The benefits of forming a South Asian Regional Power Exchange (SARPEX) were clearly outlined in a detailed pilot conducted by SARI/EI. The establishment of a regional power exchange in the very near future in the ASEAN region is also likely. Physical infrastructure and the power market operating practises needs to be coordinated to build and utilize physical infrastructure in an optimal manner. All the power trade should be executed on a sound commercial basis.

SUMMARY OF THE SESSIONS

Nine Participants, including from the Ministry of Power, Government of India; a power utility; system operator, United Nations, a major think tank, representatives from the Government of Bhutan and Sri Lanka and private power sector active in the area of cross-border electricity trade participated in the round table discussion. The discussion was focused around the benefits of regional cooperation, the recent changes in the guidelines by the Government of India and subsequent issue of CBET regulations by the Central Electricity Regulatory Commission (CERC), India. Discussions were held on the status of grid interconnections in ASEAN, SAARC/BIMSTEC and GCC regions; the identified and new interconnections; feasibility study for the identified interconnections; other enabling conditions for interconnecting different regions; establishing power markets; and the future steps.



Mr. Pankaj Batra, Project Director, SARI/EI, IRADe, gave the theme presentation on the subject of **Interconnection of Regional Grids in Asia: SAARC Grid -GCC Grid - ASEAN Grid**. He enumerated the benefits of regional interconnections for trade in electricity and the work done under the USAID SARI/EI program in this regard, for which IRADe has been a partner since 2012. He presented a scenario wherein regional grid connectivity across the South Asian countries could get extended to connect with the ASEAN countries. A BIMSTEC organization for regional cooperation already exists, comprising five countries from South Asia and two from the ASEAN Region. Later on, it could get connected with the Gulf Region, the regional organization of which is named the GCC (Gulf Cooperation Council), for further benefits of both regions, linked to feasibility of the interconnection for trade of power and depending on cost-benefit analysis. Mr. Batra also mentioned the new initiatives in the South Asian region for regional cooperation, with the issuing of new Guidelines of the Ministry of Power, Government of India, in December 2018, and the subsequent issue of CBET Regulations by CERC in March 2019.

Mr. S. R. Narsimhan, Director (System Operation), POSOCO - the national System Operator -



stated that we should look beyond just the economic exchanges and value reliability as well. Open access should be the guiding philosophy for transmission and markets. He further emphasised that an agency should be there to look at the consolidated operation in real time. Mr. Narsimhan said that robust scheduling, metering, accounting & settlement system for a

Mr Ujjwal Deep Dahal, Director, Druk Holding & Investments (DHI), from Bhutan reiterated the need for more regional cooperation in terms of regulatory and infrastructure from countries such as India, which have made major strides in these areas.

Mr Rohan Seneviratne, Deputy General Manager, Ceylon Electricity Board, Sri Lanka, discussed about the grid connectivity challenges between India and Sri Lanka. He also said that a feasibility study should be carried out for connectivity between Sri Lanka and India.



Mr. Michael Williamson, (Energy Division, UN), stressed upon the need to focus on coming up with the relevant regulations, as well as to establish more such forums for interaction.



Mr Ghanshyam Prasad, CE, MoP, Government of India, emphasised that besides the government- to-government agreement, Cross Border Electricity Trade should be opened up to the market to ensure more participation from private sector.

Mr B B Mehta, CE SLDC, Gujarat, GETCO, emphasised on the need for robust transmission system for trilateral trade as strong interconnections across borders are crucial for smooth power transmission. He said that the transition towards market-based trading is possible with the coming together of all stakeholders and making regulations and infrastructure conducive to cross border trade

Mr Vinod Kumar Agrawal, Technical Director, SARI/EI, IRADe, touched upon the process of development of the regional trade within the South Asia, South East Asia (ASEAN) and GCC markets and shared the quantum of volumes being traded under each of the region. He stated that with respect to South Asia, there is a time shift of 2-3 hours on either side i.e. with ASEAN on the east side and GCC on the west side. Integrating these regions would result in major gains in respect of time diversity, in addition to other factors such as resource diversity and demand diversity. He concluded that integrating the markets of these regions shall be beneficial for all the member countries.



Mr. Ravi Arora, Vice President – BD & Sales, ABB, explained the new upcoming technologies to be adopted for expansion of grid anew interconnections to be made across border.

Mr Rajiv Ratna Panda Technical-Head from SARI/EI, IRADe, stated that since trans-regional power interconnections are long term, irreversible, investment-intensive, they require proper, conducive and friendly ecosystem/ environments for investors. This also requires harmonisation of policy, regulatory and legal frameworks, and development of regional power market structure. He highlighted the need to put in place fair principles and a mechanism to fully recover the costs and share the benefits equitably, resulting from the reductions in investments on generation, and fuel costs among participating investing countries and said it will build trust and confidence among participating countries.



Mr Panda suggested a six-point measure for the inter-regional interconnections i.e. 1) detailed concept and white paper should be prepared for interconnection of GCC, BIMSTEC and ASEAN grid along with the long term vision, implementation/action plan and road map for the future course of action including the techno-economic rationale 2) review of policy, regulatory, legal, technical and operational frameworks of each region/country needs to be carried out 3) Joint steering committee and task forces should be created to determine modalities 4) a broad Pan Asia regional transmission plan may need to be worked upon 5) formal/informal forum of Regulators may be created for exchanging views and addressing various regulatory issues and 6) simultaneous interaction with investment community should be undertaken from the perspective of financing.